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SMITH, JOSHUA Y	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/727,360	MISAWA ET AL.	
	Examiner	Art Unit	
	JOSHUA SMITH	2477	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 December 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,13-15,17-23,26-31,40-45,47-55,58-63,66,67,69,75 and 76* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-8, 13-15, 17-23, 26-31, 40-45, 47, 48, 69/2, 69/13, 69/27, 75, 76/18 and 76/30* is/are allowed.

6)☒ Claim(s) *9, 10, 49-55, 58-63, 66, 67, 69/49, 69/59, 76/53 and 76/58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The amendment filed 12/28/2009 has been entered.

- **Claims 1-10, 13-15, 17-23, 26-31, 40-45, 47-55, 58-63, 66, 67, 69, 75 and 76 are pending.**
- **Claims 11, 12, 16, 24, 25, 32-39, 46, 56, 57, 64, 65, 68 and 70-74 are cancelled.**
- **Claims 1-8, 13-15, 17-23, 26-31, 40-45, 47, 48, 69/2, 69/13, 69/27, 75, 76/18 and 76/30 are allowed.**
- **Claims 9, 10, 49-55, 58-63, 66, 67, 69/49, 69/59, 76/53 and 76/58 stand rejected.**

Claim Objections

Claim 59 is objected to because of the following: Claim 59 states: "An OVPN terminating device for **containing** the user's device via the base point device according to Claim 58" (emphasis added by examiner), where it appears that a "terminating device" contains the "user's device". Examiner will teat the above excerpt to indicate ***An OVPN terminating device for communicating with the user's device via the base point device according to Claim 58***. Appropriate correction is required.

Claim 61 is objected to because of the following: Claim 61 states: "An OVPN terminating device for **containing** the user's device via the base point device according to Claim 60" (emphasis added by examiner), where it appears that a "terminating

device" contains the "user's device". Examiner will teat the above excerpt to indicate ***An OVPN terminating device for communicating with the user's device via the base point device according to Claim 60***. Appropriate correction is required.

Claim 63 is objected to because of the following: Claim 63 states: "An OVPN terminating device for **containing** the user's device via the base point device according to Claim 62" (emphasis added by examiner), where it appears that a "terminating device" contains the "user's device". Examiner will teat the above excerpt to indicate ***An OVPN terminating device for communicating with the user's device via the base point device according to Claim 62***. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1229692 in view of Boyles et al. (Patent Number: 5,511,208) and Oguchi et al. (Pub. No.: US 2002/0067725 A1), hereafter referred to as the '692 reference, Boyles, and Oguchi, respectively.

In regards to Claim 9, the '692 reference teaches in paragraph [0005], page 2, lines 40-43, 48-49 and 52-55, an optical transport network is intended to be a multi-service network that supports a wide variety of layers including SDH STM-N, SONET, ATM, IP, as well as other formats, to provide a universal transport medium for high bandwidth services, where client signals are mapped into the payload area of a frame structure called an optical transport unit (OUT), and where the payload to be carried fro the client, i.e. the client signal, which may be ATM, SDH, STM-N, or IP, is mapped into an optical payload unit (OPU), and, in paragraph [0019], page 5, lines 50-55, and in Fig. 1, page 18, a node N1 (Fig. 1), a node SNA (Fig. 1), a node SNB (Fig. 1), and a node N1 (Fig. 1) at the edges a conventional SDH network (optical network, and a plurality of converting sections, which are disposed so as to correspond to plural different first signal formats, for converting a first signal format and a second signal format alternatively under conditions in which the first signal format is used by a user's device and a second signal format which is used in the network are different from each other, converting sections being commonly used by a plurality of terminating devices).

The '692 reference fails to teach a plurality of terminating devices which accommodate user's devices and which are not provided with sections for converting a first signal format and a second signal format alternately, a plurality of collective

converting devices wherein each collective converting device comprises a section for performing an alternate converting operation, each of the terminating devices selects a collective converting device which is disposed nearest to each terminating devices.

Boyles teaches in column 6, line 35 to column 7, line 29, and in column 9, lines 7-17, and in FIGS. 1, 4A, 4B, and 4E, operations performed at an origin cache server node (see items 16A and 16B, FIG. 1) (a plurality of terminating devices which accommodate user's devices and which are not provided with sections for converting a first signal format and a second signal format alternately) upon receipt of a request to locate a specified target resource, if check 160 (FIG. E) reveals the existence of one or more gateway nodes, a subsequent check 166 (FIG. E) is made to determine if there is more than one available gateway node (a plurality of collective converting devices wherein each collective converting device comprises a section for performing an alternate converting operation), and if there is, the origin cache server node selects the closest gateway node (each of the terminating devices selects a collective converting device which is disposed nearest to each terminating devices); that is, the gateway node that is on the least weight path from the origin cache server node, and the LOCATE request is directed to the selected gateway node in an operation 170, (FIG. E), and if a positive reply is received, the verify/cache routine 87 is invoked, where verification is performed in an operation 84 (FIG. 4B), and the information (resource location, availability and other characteristics) is then used to update the origin cache server node's domain directory in an operation 85 (FIG. 4B), and the verified information is returned to the requesting node in an operation 86 (FIG. 4B) (a plurality of terminating

devices which accommodate user's devices and which are not provided with sections for converting a first signal format and a second signal format alternately, a plurality of collective converting devices wherein each collective converting device comprises a section for performing an alternate converting operation, each of the terminating devices selects a collective converting device which is disposed nearest to each terminating devices). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Boyles since Boyles provides a system where network devices establish communications though other network devices that are closest to them, which can be introduced into the invention of the '692 reference to ensure the shortest possible path is established for reducing latency and cost of a path.

The '692 reference fails to teach a virtual private network.

Oguchi teaches in paragraph [0065], [0067], [0083], [0085], and [0143], virtual routers having the same VPN-ID exchange routing information though a level-2 tunnel established between edge routers, which can involves a host having an IP address, and then generate routing tables for that VPN-ID (virtual private network). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Oguchi since Oguchi provides a method of establishing a virtual network and distributing the necessary information to establish and maintain such a virtual network, allowing the optical network of the '692 reference to provide optical VPN services to customers and provide the privacy, robustness, and cost effectiveness of virtual private networks.

In regards to Claim 10, as discussed in the rejection of Claim 9, the '692 reference, Morinaga, and Oguchi teaches a collective converting device.

The '692 reference teaches in paragraph [0005], page 2, lines 40-43, 48-49 and 52-55, an optical transport network is intended to be a multi-service network that supports a wide variety of layers including SDH STM-N, SONET, ATM, IP, as well as other formats, to provide a universal transport medium for high bandwidth services, where client signals are mapped into the payload area of a frame structure called an optical transport unit (OUT), and where the payload to be carried fro the client, i.e. the client signal, which may be ATM, SDH, STM-N, or IP, is mapped into an optical payload unit (OPU), and, in paragraph [0019], page 5, lines 50-55, and in Fig. 1, page 18, a node N1 (Fig. 1), a node SNA (Fig. 1), a node SNB (Fig. 1), and a node N1 (Fig. 1) at the edges a conventional SDH network (an optical communications network).

Claims 49, 50, 52, 53, 54, 69/49 and 76/53 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1229692 in view of Morinaga et al. (Patent No.: US 6,785,263 B1) and French et al. (Pub. No.: 2003/0041167 A1), hereafter referred to as the '692 reference, Morinaga, and French, respectively.

In regards to Claim 49, the '692 reference teaches in paragraph [0005], page 2, lines 40-43, 48-49 and 52-55, an optical transport network is intended to be a multi-service network that supports a wide variety of layers including SDH STM-N, SONET, ATM, IP, as well as other formats, to provide a universal transport medium for high

bandwidth services, where client signals are mapped into the payload area of a frame structure called an optical transport unit (OUT), and where the payload to be carried fro the client, i.e. the client signal, which may be ATM, SDH, STM-N, or IP, is mapped into an optical payload unit (OPU), and, in paragraph [0019], page 5, lines 50-55, and in Fig. 1, page 18, a node N1 (Fig. 1), a node SNA (Fig. 1), a node SNB (Fig. 1), and a node N1 (Fig. 1) at the edges a conventional SDH network (optical network, and a plurality of converting sections, which are disposed so as to correspond to plural different first signal formats, for converting a first signal format and a second signal format alternatively under conditions in which the first signal format is used by a user's device and a second signal format which is used in the network are different from each other, a transmitting section for transmitting a first signal format which is transmitted from a user's device to an optical network by encapsulating a first signal format by a second signal format, and a transmitting section for transmitting an encapsulated signal which is encapsulated by a second signal format which is transmitted from an optical network to a user's device by de-encapsulating to a first signal format, and a terminating device for containing the user's device).

The '692 reference fails to teach a receiving and transmitting section for receiving a notice that a user's device is connected to a base point device via a control channel from a base point device which is disposed between a user's device and a network, VPN, and transmitting an IP address and a VPNID which are allocated to a user's device according to a base point device.

Morinaga teaches in column 5, line 60 though column 6, line 6, and in column 7, lines 45-59, and in FIG. 2, Sheet 2 of 9, a H.323 protocol portion (item 33, FIG. 2), a CODEC (item 34, FIG. 2), and a call control portion (item 31, FIG. 2), that operate where a transmission format to be used in accordance with each user information of a calling side is registered as a circuit, and a CODEC to be used in accordance with each user information of the calling side is registered as the CODEC, and if the user information of a calling side is accompanied by ON flag in the target parameter setting table, the reference table of the user information of the calling side and communication method is looked up, so that the transmission format to be used as the communication method is decided, and, in column 9, lines 41-54, and in FIG. 3, Sheet 3 of 9, a gateway receives a calling signal and a target parameter setting a table is looked up as to judge parameters (a receiving and transmitting section for receiving a notice that a user's device is connected to a base point device via a control channel from a base point device which is disposed between a user's device and a network). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Morinaga since Morinaga teaches a system that involves storing user information and transmission parameters, allowing the system of the '692 reference to be able to adjust routing parameters that best serve a user's preferences or QoS requirements.

French teaches in paragraphs [0227] and [0275], assigned VPN IDs are stored as updated information within network objects, and a VPN creator ensures unique VPN IDs are created such that duplicate addresses can exist within a VPN that has an

assigned VPN ID, and a server generates an IP address on behalf of its client (transmitting an IP address and a VPNID which are allocated to a user's device according to a base point device). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of French since French provides a system of maintaining and updating VPN IDs for IP addresses within virtual private networks, allowing the optical network of the '692 reference to provide optical VPN services to customers and provide the privacy, robustness, and cost effectiveness of virtual private networks.

In regards to Claim 50, as discussed in the rejection of Claim 49, the '692 reference in view of Morinaga and French teaches a receiving section and a transmitting section, a base point device, and an IP address and a VPNID.

The '692 reference fails to teach receiving a receipt confirmation, and transmitting a final connection confirmation for notifying the receipt of a receipt confirmation.

Morinaga further teaches in column 11, lines 50-56, and in column 12, lines 19-25, and in FIG. 5, Sheet 5 of 9, in step #301 (FIG. 5) a RECEPTION OF SETUP occurs, and then, in the connection process step # 311 (FIG. 5), a TRANSMISSION OF CONN is received, and then a transmission of RECEPTION OF CONN-ACK (receiving a receipt confirmation, and transmitting a final connection confirmation for notifying the receipt of a receipt confirmation). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with

the invention of Morinaga since Morinaga teaches a system that involves storing user information and transmission parameters, allowing the system of the '692 reference to be able to adjust routing parameters that best serve a user's preferences or QoS requirements.

In regards to Claim 52, as discussed in the rejection of Claim 49, the '692 reference in view of Morinaga and French teaches an OVPN terminating device.

The '692 reference fails to teach a section for performing an alternate converting operation.

Morinaga teaches in column 5, line 60 though column 6, line 6, and in column 7, lines 45-59, and in FIG. 2, Sheet 2 of 9, a H.323 protocol portion (item 33, FIG. 2), a CODEC (item 34, FIG. 2), and a call control portion (item 31, FIG. 2), that operate where a transmission format to be used in accordance with each user information of a calling side is registered as a circuit, and a CODEC to be used in accordance with each user information of the calling side is registered as the CODEC, and if the user information of a calling side is accompanied by ON flag in the target parameter setting table, the reference table of the user information of the calling side and communication method is looked up, so that the transmission format to be used as the communication method is decided (a section for performing an alternate converting operation). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Morinaga since Morinaga teaches a system that involves storing user information and transmission

parameters, allowing the system of the '692 reference to be able to adjust routing parameters that best serve a user's preferences or QoS requirements.

In regards to Claim 53, the '692 reference teaches in paragraph [0005], page 2, lines 40-43, 48-49 and 52-55, an optical transport network is intended to be a multi-service network that supports a wide variety of layers including SDH STM-N, SONET, ATM, IP, as well as other formats, to provide a universal transport medium for high bandwidth services, where client signals are mapped into the payload area of a frame structure called an optical transport unit (OUT), and where the payload to be carried from the client, i.e. the client signal, which may be ATM, SDH, STM-N, or IP, is mapped into an optical payload unit (OPU), and, in paragraph [0019], page 5, lines 50-55, and in Fig. 1, page 18, a node N1 (Fig. 1), a node SNA (Fig. 1), a node SNB (Fig. 1), and a node N1 (Fig. 1) at the edges a conventional SDH network (a transmitting section for transmitting a first signal format type information which is used by a user's device and an IP address to an OVPN terminating device).

The '692 reference fails to teach a detection section for detecting whether or not a user's device is connected to a base point, a notifying section for notifying an OVPN terminating device via a control channel that it is detected that a user's device is connected to a base point device, a transmitting section for transmitting a receipt confirmation that a receiving section received an IP address and a VPNID to an OVPN terminating device, and a receiving section for receiving an IP address and a VPNID

which are allocated to a user's device from an OVPN terminating device via a control channel.

Morinaga teaches in column 5, line 60 though column 6, line 6, and in column 7, lines 45-59, and in FIG. 2, Sheet 2 of 9, a H.323 protocol portion (item 33, FIG. 2), a CODEC (item 34, FIG. 2), and a call control portion (item 31, FIG. 2), that operate where a transmission format to be used in accordance with each user information of a calling side is registered as a circuit, and a CODEC to be used in accordance with each user information of the calling side is registered as the CODEC, and if the user information of a calling side is accompanied by ON flag in the target parameter setting table, the reference table of the user information of the calling side and communication method is looked up, so that the transmission format to be used as the communication method is decided, and, in column 9, lines 41-54, and in FIG. 3, Sheet 3 of 9, a gateway receives a calling signal and a target parameter setting a table is looked up as to judge parameters (a detection section for detecting whether or not a user's device is connected to a base point).

Morinaga teaches in column 5, line 60 though column 6, line 6, and in column 7, lines 45-59, and in FIG. 2, Sheet 2 of 9, a H.323 protocol portion (item 33, FIG. 2), a CODEC (item 34, FIG. 2), and a call control portion (item 31, FIG. 2), that operate where a transmission format to be used in accordance with each user information of a calling side is registered as a circuit, and a CODEC to be used in accordance with each user information of the calling side is registered as the CODEC, and if the user information of a calling side is accompanied by ON flag in the target parameter setting

table, the reference table of the user information of the calling side and communication method is looked up, so that the transmission format to be used as the communication method is decided, and, in column 9, lines 41-54, and in FIG. 3, Sheet 3 of 9, a gateway receives a calling signal and a target parameter setting a table is looked up as to judge parameters (a notifying section for notifying an OVPN terminating device via a control channel that it is detected that a user's device is connected to a base point device). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Morinaga since Morinaga teaches a system that involves storing user information and transmission parameters, allowing the system of the '692 reference to be able to adjust routing parameters that best serve a user's preferences or QoS requirements.

Morinaga further teaches in column 11, lines 50-56, and in column 12, lines 19-25, and in FIG. 5, Sheet 5 of 9, in step #301 (FIG. 5) a RECEPTION OF SETUP occurs, and then, in the connection process step # 311 (FIG. 5), a TRANSMISSION OF CONN is received, and then a transmission of RECEPTION OF CONN-ACK (a transmitting section for transmitting a receipt confirmation that a receiving section received an IP address and a VPNID to an OVPN terminating device). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Morinaga since Morinaga teaches a system that involves storing user information and transmission parameters, allowing the system of the '692 reference to be able to adjust routing parameters that best serve a user's preferences or QoS requirements.

French teaches in paragraphs [0227] and [0275], assigned VPN IDs are stored as updated information within network objects, and a VPN creator ensures unique VPN IDs are created such that duplicate addresses can exist within a VPN that has an assigned VPN ID, and a server generates an IP address on behalf of its client (a receiving section for receiving an IP address and a VPNID which are allocated to a user's device from an OVPN terminating device via a control channel). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of French since French provides a system of maintaining and updating VPN IDs for IP addresses within virtual private networks, allowing the optical network of the '692 reference to provide optical VPN services to customers and provide the privacy, robustness, and cost effectiveness of virtual private networks.

In regards to Claim 54, as discussed in the rejection of Claim 53, the '692 reference in view of Morinaga and French teaches a base point device.

The '692 reference fails to teach a determining section for determining a first signal format type information which is employed in a user's device, and a transmitting device for transmitting a format type information which is determined by a determining section to an OVPN terminating device.

Morinaga teaches in column 5, line 60 though column 6, line 6, and in column 7, lines 45-59, and in FIG. 2, Sheet 2 of 9, a H.323 protocol portion (item 33, FIG. 2), a CODEC (item 34, FIG. 2), and a call control portion (item 31, FIG. 2), that operate

where a transmission format to be used in accordance with each user information of a calling side is registered as a circuit, and a CODEC to be used in accordance with each user information of the calling side is registered as the CODEC, and if the user information of a calling side is accompanied by ON flag in the target parameter setting table, the reference table of the user information of the calling side and communication method is looked up, so that the transmission format to be used as the communication method is decided, and, in column 9, lines 41-54, and in FIG. 3, Sheet 3 of 9, a gateway receives a calling signal and a target parameter setting a table is looked up as to judge parameters (a determining section for determining a first signal format type information which is employed in a user's device). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Morinaga since Morinaga teaches a system that involves storing user information and transmission parameters, allowing the system of the '692 reference to be able to adjust routing parameters that best serve a user's preferences or QoS requirements.

Morinaga teaches in column 5, line 60 though column 6, line 6, and in column 7, lines 45-59, and in column 12, lines 18-25, and in FIG. 2, Sheet 2 of 9, and in FIG. 5, Sheet 5 of 9, a H.323 protocol portion (item 33, FIG. 2), a CODEC (item 34, FIG. 2), and a call control portion (item 31, FIG. 2), that operate where a transmission format to be used in accordance with each user information of a calling side is registered as a circuit, and a CODEC to be used in accordance with each user information of the calling side is registered as the CODEC, and if the user information of a calling side is accompanied

by ON flag in the target parameter setting table, the reference table of the user information of the calling side and communication method is looked up, so that the transmission format to be used as the communication method is decided, and a request of setup is propagated to opposite site of the intended connection (item #311, FIG. 5) based on selection of CODEC and format (a transmitting device for transmitting a format type information which is determined by a determining section to an OVPN terminating device). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Morinaga since Morinaga teaches a system that involves storing user information and transmission parameters for use in efficient connection setup.

In regards to Claim 69/49, as discussed in the rejection of Claim 49, the '692 reference in view of Miyabe and Oguchi teaches an OVPN terminating device.

The '692 reference teaches in paragraph [0005], page 2, lines 40-43, 48-49 and 52-55, an optical transport network is intended to be a multi-service network that supports a wide variety of layers including SDH STM-N, SONET, ATM, IP, as well as other formats, to provide a universal transport medium for high bandwidth services, where client signals are mapped into the payload area of a frame structure called an optical transport unit (OUT), and where the payload to be carried fro the client, i.e. the client signal, which may be ATM, SDH, STM-N, or IP, is mapped into an optical payload unit (OPU), and, in paragraph [0019], page 5, lines 50-55, and in Fig. 1, page 18, a

node N1 (Fig. 1), a node SNA (Fig. 1), a node SNB (Fig. 1), and a node N1 (Fig. 1) at the edges a conventional SDH network (an optical communication network).

In regards to Claims 76/53, as discussed in the rejections of Claims 18 and 53, the '692 reference in view of Miyabe and Oguchi teaches a base point device.

The '692 reference teaches in paragraph [0005], page 2, lines 40-43, 48-49 and 52-55, an optical transport network is intended to be a multi-service network that supports a wide variety of layers including SDH STM-N, SONET, ATM, IP, as well as other formats, to provide a universal transport medium for high bandwidth services, where client signals are mapped into the payload area of a frame structure called an optical transport unit (OUT), and where the payload to be carried fro the client, i.e. the client signal, which may be ATM, SDH, STM-N, or IP, is mapped into an optical payload unit (OPU), and, in paragraph [0019], page 5, lines 50-55, and in Fig. 1, page 18, a node N1 (Fig. 1), a node SNA (Fig. 1), a node SNB (Fig. 1), and a node N1 (Fig. 1) at the edges a conventional SDH network (an optical communication network).

Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over the '692 reference in view of Morinaga, French, and further in view of Newell, Jr. et al. (Patent No.: US 6,668,319 B1), hereafter referred to as Newell.

In regards to Claim 51, as discussed in the rejection of Claim 50, the '692 reference in view of Morinaga and French teaches a receiving and retrieving section, an alternate converting section, a first signal format type information which is employed by

a user's device according to a control channel after a final connection confirmation is transmitted.

The '692 reference fails to teach retrieving whether or not there is a converting section for performing an operation, and a retrieving result indicating there is a section for performing an operation, a registering section for registering an IP address and a VPNID which are allocated to a user's device

Newell teaches in column 4, lines 11-27, devices exchange information concerning which protocol feature teaches does or does not support (retrieving whether or not there is a converting section for performing an operation, and a retrieving result indicating there is a section for performing an operation). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Newell since Newell provides a method in which devices in a network can inform other devices of network capabilities, allowing devices to make appropriate decision when routing requests, allowing the system of the '692 reference to performing routing based on the capabilities of other devices.

French teaches in paragraphs [0227] and [0275], assigned VPN IDs are stored as updated information within network objects, and a VPN creator ensures unique VPN IDs are created such that duplicate addresses can exist within a VPN that has an assigned VPN ID, and a server generates an IP address on behalf of its client (a registering section for registering an IP address and a VPNID which are allocated to a user's device). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of

French since French provides a system of maintaining and updating VPN IDs for IP addresses within virtual private networks, allowing the optical network of the '692 reference to provide optical VPN services to customers and provide the privacy, robustness, and cost effectiveness of virtual private networks.

Claim 55 is rejected under 35 U.S.C. 103(a) as being unpatentable over the '692 reference in view of Morinaga, French, and further in view of Tosey et al. (Patent No.: US 6,392,990 B1), hereafter referred to as Tosey.

In regards to Claim 55, as discussed in the rejection of Claim 53, the '692 reference in view of Morinaga and French teaches a base point device.

The '692 reference fails to teach a separating section for separating a user's device and a network, and a returning section for returning a test beam which is transmitted from a network.

Tosey teaches in column 7, lines 14-17 and 29-31, and in FIG. 2, Sheet 2 of 11, a network computing device (item 21, FIG. 2) that is part of a network of other network devices, and this network is separated from a WAN of users by a router (item 24, FIG. 2), and where the network computing device (item 21, FIG. 2) executes a link test to a peer network device, such as the router (item 24, FIG. 2), and setermines if a peer network device has returned a response (a separating section for separating a user's device and a network, and a returning section for returning a test beam which is transmitted from a network). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the

invention of Tosey since Tosey provides a method of testing connections of a network device to other network devices, including devices that connect it to another network and its users, and where the device being tested can respond to confirm connectivity, including connectivity to a network of users, allowing the system of the '692 reference to detect network failures and respond by developing paths to avoid them and reestablish connectivity.

Claims 58, 59, 66/59, 69/59 and 76/58 are rejected under 35 U.S.C. 103(a) as being unpatentable over the '692 reference in view of Miyabe (Patent No.: US 7,024,113 B2) (hereafter referred to as Miyabe) and Oguchi.

In regards to Claims 58, 59 and 66/59, the '692 reference teaches in paragraph [0005], page 2, lines 40-43, 48-49 and 52-55, an optical transport network is intended to be a multi-service network that supports a wide variety of layers including SDH STM-N, SONET, ATM, IP, as well as other formats, to provide a universal transport medium for high bandwidth services, where client signals are mapped into the payload area of a frame structure called an optical transport unit (OUT), and where the payload to be carried fro the client, i.e. the client signal, which may be ATM, SDH, STM-N, or IP, is mapped into an optical payload unit (OPU), and, in paragraph [0019], page 5, lines 50-55, and in Fig. 1, page 18, a node N1 (Fig. 1), a node SNA (Fig. 1), a node SNB (Fig. 1), and a node N1 (Fig. 1) at the edges a conventional SDH network (optical network, and a plurality of converting sections, which are disposed so as to correspond to plural different first signal formats, for converting a first signal format and a second signal

format alternatively under conditions in which the first signal format is used by a user's device and a second signal format which is used in the network are different from each other, a transmitting section for transmitting a first signal format which is transmitted from a user's device to an optical network by encapsulating a first signal format by a second signal format, and a transmitting section for transmitting an encapsulated signal which is encapsulated by a second signal format which is transmitted from an optical network to a user's device by de-encapsulating to a first signal format, and a terminating device for containing the user's device, and a transmitting section for transmitting a plurality of optical wavelength signals to an optical network).

The '692 reference fails to teach a multiplying and transmitting section for multiplying and transmitting a plurality of optical wavelength signals which are used in a user's device to an optical network, a separating and transmitting section for separating and transmitting multiplied optical wavelength signals which arrive from an optical network, and separating and transmitting a multiplied optical wavelength signals which arrive form a base point device so as to transmit to a predetermined course according to information which is notified from a notifying section, a notifying section for notifying an optical network of information for a wavelength which are transmitted under a multiplied condition so as to be used in a plurality of devices, and VPN.

Miyabe teaches in column 19, lines 44-52, and in column 12, line 63 through column 13, line 8, and in FIG. 19, Sheet 19 of 28, and in FIG. 24, Sheet 23 of 28, a wavelength multiplexer (item 9, FIG. 19) on an output side of an optical switch (a

multiplying and transmitting section for multiplying and transmitting a plurality of optical wavelength signals which are used in a user's device to an optical network).

Miyabe also teaches in column 19, lines 44-52, and in column 12, line 63 through column 13, line 8, and in FIG. 19, Sheet 19 of 28, and in FIG. 24, Sheet 23 of 28, a wavelength demultiplexer (item 7, FIG. 19) on an input side of an optical switch which can receive signals from intermediate network devices (a separating and transmitting section for separating and transmitting multiplied optical wavelength signals which arrive from an optical network, and separating and transmitting a multiplied optical wavelength signals which arrive from a base point device so as to transmit to a predetermined course according to information which is notified from a notifying section).

Miyabe also teaches in column 19, lines 44-52, and in column 12, line 63 through column 13, line 8, and in FIG. 19, Sheet 19 of 28, and in FIG. 24, Sheet 23 of 28, a an OXC5 (OPTICAL XC5, FIG. 24) transmits to OXC4 (OPTICAL XC4, FIG. 24), a wavelength notification message indicating a wavelength has been reserved for a new route, where the wavelength notification message includes a path identifier and a wavelength value for notification, and upon receipt of this message, OXC4 stores the wavelength value into a table entry corresponding to a path identifier of the new route in a wavelength management table (item 60, FIG. 19), where the entire content of the wavelength management table become to have effective values and the contents are reflected to an optical switch (a notifying section for notifying an optical network of information for a wavelength which are transmitted under a multiplied condition so as to be used in a plurality of devices). It would have been obvious to one of ordinary skill in

the art at the time of the invention to combine the invention of the '692 reference with the invention of Miyabe since Miyabe provides a system that details the reception, transmission, and processing of wavelength signals in an optical network and how to update routing information to devices on such a network, and can be incorporated the system of the '692 reference to provide prompt management table updates utilizing wavelength division components.

Oguchi teaches in paragraph [0065], [0067], [0083], [0085], and [0143], virtual routers having the same VPN-ID exchange routing information though a level-2 tunnel established between edge routers, which can involves a host having an IP address, and then generate routing tables for that VPN-ID (VPN). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Oguchi since Oguchi provides a method of establishing a virtual network and distributing the necessary information to establish and maintain such a virtual network, allowing the optical network of the '692 reference to provide optical VPN services to customers and provide the privacy, robustness, and cost effectiveness of virtual private networks.

In regards to Claim 69/59, as discussed in the rejection of Claim 59, the '692 reference in view of Miyabe and Oguchi teaches an OVPN terminating device.

The '692 reference teaches in paragraph [0005], page 2, lines 40-43, 48-49 and 52-55, an optical transport network is intended to be a multi-service network that supports a wide variety of layers including SDH STM-N, SONET, ATM, IP, as well as

other formats, to provide a universal transport medium for high bandwidth services, where client signals are mapped into the payload area of a frame structure called an optical transport unit (OUT), and where the payload to be carried fro the client, i.e. the client signal, which may be ATM, SDH, STM-N, or IP, is mapped into an optical payload unit (OPU), and, in paragraph [0019], page 5, lines 50-55, and in Fig. 1, page 18, a node N1 (Fig. 1), a node SNA (Fig. 1), a node SNB (Fig. 1), and a node N1 (Fig. 1) at the edges a conventional SDH network (an optical communication network).

In regards to Claims 76/58, as discussed in the rejections of Claim 58, the '692 reference in view of Miyabe and Oguchi teaches a base point device.

The '692 reference teaches in paragraph [0005], page 2, lines 40-43, 48-49 and 52-55, an optical transport network is intended to be a multi-service network that supports a wide variety of layers including SDH STM-N, SONET, ATM, IP, as well as other formats, to provide a universal transport medium for high bandwidth services, where client signals are mapped into the payload area of a frame structure called an optical transport unit (OUT), and where the payload to be carried fro the client, i.e. the client signal, which may be ATM, SDH, STM-N, or IP, is mapped into an optical payload unit (OPU), and, in paragraph [0019], page 5, lines 50-55, and in Fig. 1, page 18, a node N1 (Fig. 1), a node SNA (Fig. 1), a node SNB (Fig. 1), and a node N1 (Fig. 1) at the edges a conventional SDH network (an optical communication network).

Claims 60-63, 66/61 and 66/63 are rejected under 35 U.S.C. 103(a) as being unpatentable over the '692 reference in view of Miyabe, Miller et al. (Patent No.: US 6,212,568 B1) (hereafter referred to as Miller), and Oguchi.

In regards to Claim 60, the '692 reference teaches in paragraph [0005], page 2, lines 40-43, 48-49 and 52-55, an optical transport network is intended to be a multi-service network that supports a wide variety of layers including SDH STM-N, SONET, ATM, IP, as well as other formats, to provide a universal transport medium for high bandwidth services, where client signals are mapped into the payload area of a frame structure called an optical transport unit (OUT), and where the payload to be carried fro the client, i.e. the client signal, which may be ATM, SDH, STM-N, or IP, is mapped into an optical payload unit (OPU), and, in paragraph [0019], page 5, lines 50-55, and in Fig. 1, page 18, a node N1 (Fig. 1), a node SNA (Fig. 1), a node SNB (Fig. 1), and a node N1 (Fig. 1) at the edges a conventional SDH network (optical network, and a plurality of converting sections, which are disposed so as to correspond to plural different first signal formats, for converting a first signal format and a second signal format alternatively under conditions in which the first signal format is used by a user's device and a second signal format which is used in the network are different from each other, a transmitting section for transmitting a first signal format which is transmitted from a user's device to an optical network by encapsulating a first signal format by a second signal format, and a transmitting section for transmitting an encapsulated signal which is encapsulated by a second signal format which is transmitted from an optical network to a user's device by de-encapsulating to a first signal format, and a terminating device for

containing the user's device, and a transmitting section for transmitting a plurality of optical wavelength signals to an optical network).

The '692 reference fails to teach a converting and transmitting section for converting a serial signal which is transmitted from a user's device into a plurality of parallel signals so as to transmit to a network, a converting and transmitting section for converting a plurality of parallel signals which arrive from a network to a serial signal so as to transmit to a user's device a notifying section for notifying that information for a topology of parallel signals and information that the serial signals are converted to parallel signals, and VPN.

Miyabe teaches in column 19, lines 44-52, and in column 12, line 63 through column 13, line 8, and in FIG. 19, Sheet 19 of 28, and in FIG. 24, Sheet 23 of 28, a wavelength demultiplexer (item 7, FIG. 19) on an input side of an optical switch which can receive signals from intermediate network devices (a converting and transmitting section for converting a serial signal which is transmitted from a user's device into a plurality of parallel signals so as to transmit to a network).

Miyabe also teaches in column 19, lines 44-52, and in column 12, line 63 through column 13, line 8, and in FIG. 19, Sheet 19 of 28, and in FIG. 24, Sheet 23 of 28, a wavelength multiplexer (item 9, FIG. 19) on an output side of an optical switch (a converting and transmitting section for converting a plurality of parallel signals which arrive from a network to a serial signal so as to transmit to a user's device). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Miyabe since Miyabe

provides a system that details the reception, transmission, and processing of wavelength signals in an optical network and how to update routing information to devices on such a network, and can be incorporated the system of the '692 reference to provide prompt management table updates utilizing wavelength division components.

Miller teaches in column 11, lines 4-11, a frame includes a frames-follow flag which indicates that multiple frames together comprise a “super frame” (a notifying section for notifying that information for a topology of parallel signals and information that the serial signals are converted to parallel signals). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Miller since Miller provides a method of conveying how information has been arranged, allowing quicker processing of data units since more detailed information is provided to devices that receive the encapsulated data unit in the system of the '692 reference.

Oguchi teaches in paragraph [0065], [0067], [0083], [0085], and [0143], virtual routers having the same VPN-ID exchange routing information though a level-2 tunnel established between edge routers, which can involves a host having an IP address, and then generate routing tables for that VPN-ID (VPN). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Oguchi since Oguchi provides a method of establishing a virtual network and distributing the necessary information to establish and maintain such a virtual network, allowing the optical network of the '692 reference to provide optical

VPN services to customers and provide the privacy, robustness, and cost effectiveness of virtual private networks.

In regards to Claim 61, as discussed in the rejection of Claim 60, the '692 reference in view of Miyabe, Miller, and Oguchi teaches an optical network, and a plurality of converting sections, which are disposed so as to correspond to plural different first signal formats, for converting a first signal format and a second signal format alternatively under conditions in which the first signal format is used by a user's device and a second signal format which is used in the network are different from each other, and a terminating device for containing the user's device and information which is notified from a notifying section.

The '692 reference fails to teach an inputting section for inputting parallel signals which are divided from a series of serial signals.

Miyabe further teaches in column 19, lines 44-52, and in column 12, line 63 through column 13, line 8, and in FIG. 19, Sheet 19 of 28, and in FIG. 24, Sheet 23 of 28, a wavelength multiplexer (item 9, FIG. 19) on an output side of an optical switch (an inputting section for inputting parallel signals which are divided from a series of serial signals). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Miyabe since Miyabe provides a system that details the reception, transmission, and processing of wavelength signals in an optical network and how to update routing information to

devices on such a network, and can be incorporated the system of the '692 reference to provide prompt management table updates utilizing wavelength division components.

In regards to Claims 62 and 63, the '692 reference teaches in paragraph [0005], page 2, lines 40-43, 48-49 and 52-55, an optical transport network is intended to be a multi-service network that supports a wide variety of layers including SDH STM-N, SONET, ATM, IP, as well as other formats, to provide a universal transport medium for high bandwidth services, where client signals are mapped into the payload area of a frame structure called an optical transport unit (OUT), and where the payload to be carried fro the client, i.e. the client signal, which may be ATM, SDH, STM-N, or IP, is mapped into an optical payload unit (OPU), and, in paragraph [0019], page 5, lines 50-55, and in Fig. 1, page 18, a node N1 (Fig. 1), a node SNA (Fig. 1), a node SNB (Fig. 1), and a node N1 (Fig. 1) at the edges a conventional SDH network (optical network, and a plurality of converting sections, which are disposed so as to correspond to plural different first signal formats, for converting a first signal format and a second signal format alternatively under conditions in which the first signal format is used by a user's device and a second signal format which is used in the network are different from each other, and a terminating device for containing the user's device,).

The '692 reference fails to teach a multiplying and transmitting section for multiplying a parallel signal which is converted from a serial signal to transmit to a network, a separating and transmitting section for separating multiplied wavelength signals which arrive from a network into parallel signals and converting parallel signals

into serial signals so as to transmit to a device, information that signals are transmitted under wavelength-multiplied condition, a notifying section for notifying that information for a topology of parallel signals, and VPN.

Miyabe teaches in column 19, lines 44-52, and in column 12, line 63 through column 13, line 8, and in FIG. 19, Sheet 19 of 28, and in FIG. 24, Sheet 23 of 28, a wavelength multiplexer (item 9, FIG. 19) on an output side of an optical switch (a multiplying and transmitting section for multiplying a parallel signal which is converted from a serial signal to transmit to a network).

Miyabe also teaches in column 19, lines 44-52, and in column 12, line 63 through column 13, line 8, and in FIG. 19, Sheet 19 of 28, and in FIG. 24, Sheet 23 of 28, a wavelength demultiplexer (item 7, FIG. 19) on an input side of an optical switch which can receive signals from intermediate network devices (a separating and transmitting section for separating multiplied wavelength signals which arrive from a network into parallel signals and converting parallel signals into serial signals so as to transmit to a device).

Miyabe also teaches in column 19, lines 44-52, and in column 12, line 63 through column 13, line 8, and in FIG. 19, Sheet 19 of 28, and in FIG. 24, Sheet 23 of 28, a an OXC5 (OPTICAL XC5, FIG. 24) transmits to OXC4 (OPTICAL XC4, FIG. 24), a wavelength notification message indicating a wavelength has been reserved for a new route, where the wavelength notification message includes a path identifier and a wavelength value for notification, and upon receipt of this message, OXC4 stores the wavelength value into a table entry corresponding to a path identifier of the new route in

a wavelength management table (item 60, FIG. 19), where the entire content of the wavelength management table become to have effective values and the contents are reflected to an optical switch (information that signals are transmitted under wavelength-multiplied condition). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Miyabe since Miyabe provides a system that details the reception, transmission, and processing of wavelength signals in an optical network and how to update routing information to devices on such a network, and can be incorporated the system of the '692 reference to provide prompt management table updates utilizing wavelength division components.

Miller teaches in column 11, lines 4-11, a frame includes a frames-follow flag which indicates that multiple frames together comprise a “super frame” (a notifying section for notifying that information for a topology of parallel signals). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Miller since Miller provides a method of conveying how information has been arranged, allowing quicker processing of data units since more detailed information is provided to devices that receive the encapsulated data unit in the system of the '692 reference.

Oguchi teaches in paragraph [0065], [0067], [0083], [0085], and [0143], virtual routers having the same VPN-ID exchange routing information though a level-2 tunnel established between edge routers, which can involves a host having an IP address, and then generate routing tables for that VPN-ID (VPN). It would have been obvious to one

of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Oguchi since Oguchi provides a method of establishing a virtual network and distributing the necessary information to establish and maintain such a virtual network, allowing the optical network of the '692 reference to provide optical VPN services to customers and provide the privacy, robustness, and cost effectiveness of virtual private networks.

In regards to Claims 66/61 and 66/63, the '692 reference teaches in paragraph [0005], page 2, lines 40-43, 48-49 and 52-55, an optical transport network is intended to be a multi-service network that supports a wide variety of layers including SDH STM-N, SONET, ATM, IP, as well as other formats, to provide a universal transport medium for high bandwidth services, where client signals are mapped into the payload area of a frame structure called an optical transport unit (OUT), and where the payload to be carried fro the client, i.e. the client signal, which may be ATM, SDH, STM-N, or IP, is mapped into an optical payload unit (OPU), and, in paragraph [0019], page 5, lines 50-55, and in Fig. 1, page 18, a node N1 (Fig. 1), a node SNA (Fig. 1), a node SNB (Fig. 1), and a node N1 (Fig. 1) at the edges a conventional SDH network (optical network, and a plurality of converting sections, which are disposed so as to correspond to plural different first signal formats, for converting a first signal format and a second signal format alternatively under conditions in which the first signal format is used by a user's device and a second signal format which is used in the network are different from each other, a transmitting section for transmitting a first signal format which is transmitted

from a user's device to an optical network by encapsulating a first signal format by a second signal format, and a transmitting section for transmitting an encapsulated signal which is encapsulated by a second signal format which is transmitted from an optical network to a user's device by de-encapsulating to a first signal format, and a terminating device for containing the user's device, and a transmitting section for transmitting a plurality of optical wavelength signals to an optical network).

The '692 reference fails to teach a multiplying and transmitting section for multiplying and transmitting a plurality of optical wavelength signals which are used in a user's device to an optical network, a separating and transmitting section for separating and transmitting multiplied optical wavelength signals which arrive from an optical network, and separating and transmitting a multiplied optical wavelength signals which arrive form a base point device so as to transmit to a predetermined course according to information which is notified from a notifying section, a notifying section for notifying an optical network of information for a wavelength which are transmitted under a multiplied condition so as to be used in a plurality of devices, and VPN.

Miyabe teaches in column 19, lines 44-52, and in column 12, line 63 through column 13, line 8, and in FIG. 19, Sheet 19 of 28, and in FIG. 24, Sheet 23 of 28, a wavelength multiplexer (item 9, FIG. 19) on an output side of an optical switch (a multiplying and transmitting section for multiplying and transmitting a plurality of optical wavelength signals which are used in a user's device to an optical network).

Miyabe also teaches in column 19, lines 44-52, and in column 12, line 63 through column 13, line 8, and in FIG. 19, Sheet 19 of 28, and in FIG. 24, Sheet 23 of 28, a

wavelength demultiplexer (item 7, FIG. 19) on an input side of an optical switch which can receive signals from intermediate network devices (a separating and transmitting section for separating and transmitting multiplied optical wavelength signals which arrive from an optical network, and separating and transmitting a multiplied optical wavelength signals which arrive from a base point device so as to transmit to a predetermined course according to information which is notified from a notifying section).

Miyabe also teaches in column 19, lines 44-52, and in column 12, line 63 through column 13, line 8, and in FIG. 19, Sheet 19 of 28, and in FIG. 24, Sheet 23 of 28, a an OXC5 (OPTICAL XC5, FIG. 24) transmits to OXC4 (OPTICAL XC4, FIG. 24), a wavelength notification message indicating a wavelength has been reserved for a new route, where the wavelength notification message includes a path identifier and a wavelength value for notification, and upon receipt of this message, OXC4 stores the wavelength value into a table entry corresponding to a path identifier of the new route in a wavelength management table (item 60, FIG. 19), where the entire content of the wavelength management table become to have effective values and the contents are reflected to an optical switch (a notifying section for notifying an optical network of information for a wavelength which are transmitted under a multiplied condition so as to be used in a plurality of devices). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Miyabe since Miyabe provides a system that details the reception, transmission, and processing of wavelength signals in an optical network and how to update routing information to devices on such a network, and can be incorporated the

system of the '692 reference to provide prompt management table updates utilizing wavelength division components.

Oguchi teaches in paragraph [0065], [0067], [0083], [0085], and [0143], virtual routers having the same VPN-ID exchange routing information though a level-2 tunnel established between edge routers, which can involves a host having an IP address, and then generate routing tables for that VPN-ID (VPN). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Oguchi since Oguchi provides a method of establishing a virtual network and distributing the necessary information to establish and maintain such a virtual network, allowing the optical network of the '692 reference to provide optical VPN services to customers and provide the privacy, robustness, and cost effectiveness of virtual private networks.

Claim 67/58 is rejected under 35 U.S.C. 103(a) as being unpatentable over the '692 reference in view of Miyabe, Oguchi, and further in view of Tosey et al. (Patent No.: US 6,392,990 B1), hereafter refereed to as Tosey.

In regards to Claim 67/58, as discussed in the rejection of Claim 58, the '692 reference in view of Miyabe and Oguchi teaches a user's device and an OVPN.

The '692 reference fails to teach a separating section for separating a user's device and a network, and a returning section for returning a test beam which is transmitted from a network.

Tosey teaches in column 7, lines 14-17 and 29-31, and in FIG. 2, Sheet 2 of 11, a network computing device (item 21, FIG. 2) that is part of a network of other network devices, and this network is separated from a WAN of users by a router (item 24, FIG. 2), and where the network computing device (item 21, FIG. 2) executes a link test to a peer network device, such as the router (item 24, FIG. 2), and determines if a peer network device has returned a response (a separating section for separating a user's device and a network, and a returning section for returning a test beam which is transmitted from a network). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Tosey since Tosey provides a method of testing connections of a network device to other network devices, including devices that connect it to another network and its users, and where the device being tested can respond to confirm connectivity, including connectivity to a network of users, allowing the system of the '692 reference to detect network failures and respond by developing paths to avoid them and reestablish connectivity.

Claims 67/60 and 67/62 are rejected under 35 U.S.C. 103(a) as being unpatentable over the '692 reference in view of Miyabe, Miller, Oguchi, and further in view of Tosey et al. (Patent No.: US 6,392,990 B1), hereafter refereed to as Tosey.

In regards to Claim 67/60, as discussed in the rejection of Claim 60, the '692 reference in view of Miyabe, Miller, and Oguchi teaches a user's device and an OVPN.

The '692 reference fails to teach a separating section for separating a user's device and a network, and a returning section for returning a test beam which is transmitted from a network.

Tosey teaches in column 7, lines 14-17 and 29-31, and in FIG. 2, Sheet 2 of 11, a network computing device (item 21, FIG. 2) that is part of a network of other network devices, and this network is separated from a WAN of users by a router (item 24, FIG. 2), and where the network computing device (item 21, FIG. 2) executes a link test to a peer network device, such as the router (item 24, FIG. 2), and determines if a peer network device has returned a response (a separating section for separating a user's device and a network, and a returning section for returning a test beam which is transmitted from a network). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of the '692 reference with the invention of Tosey since Tosey provides a method of testing connections of a network device to other network devices, including devices that connect it to another network and its users, and where the device being tested can respond to confirm connectivity, including connectivity to a network of users, allowing the system of the '692 reference to detect network failures and respond by developing paths to avoid them and reestablish connectivity.

Allowable Subject Matter

Claims 1-8, 13-15, 17-23, 26-31, 40-45, 47, 48, 69/2, 69/13, 69/27, 75, 76/18 and 76/30 are allowed.

Response to Arguments

I. Arguments for Claim Rejection under 35 USC § 101

Applicant's arguments, see page 32, filed 12/28/2009, with respect to the Claim Rejection under 35 USC § 101 of Claims 19, 21, 64 and 75/19 have been fully considered and are persuasive. The Claim Rejection under 35 USC § 101 of Claims 19, 21, 64 and 75/19 has been withdrawn.

II. Arguments for Claim Rejection under 35 USC § 112

Applicant's arguments, see pages 32-33, filed 12/28/2009, with respect to the Claim Rejection under 35 USC § 112 of Claims 19, 20, 21, 22/20 and 75 have been fully considered and are persuasive. The Claim Rejection under 35 USC § 112 of Claims 19, 20, 21, 22/20 and 75 has been withdrawn.

III. Arguments for Claim Rejection under 35 USC § 103

Applicants' arguments, see pages 33-36 and 39-42, filed 12/28/2009, with respect to the Claim Rejection under 35 USC § 103 of Claims 1-4, 13 and 43 have been fully considered and are persuasive. The Claim Rejection under 35 USC § 103 of Claims 1-4, 13 and 43 has been withdrawn.

Applicants' arguments with respect to claim 9 have been considered but are moot in view of the new ground(s) of rejection.

Applicants' arguments filed 12/28/2009 with respect to Claims 49, 58, 60 and 62 have been fully considered but they are not persuasive. The argument that ***one of the***

features of Claim 49 that includes receiving a notice that a user's device is connected to a base point device which is disposed between the user's device and an OVPN terminating device from the base point device, and transmitting an IP address and a VPNID allocated to the user's device to the base point device, is neither disclosed nor suggested by Morinaga, is not persuasive. The components in FIG. 2 of Morinaga presented in the rejection of Claim 49 are within a gateway GW1 shown in FIG. 1 of Morinaga, and where the gateway is substantively the same as a terminating device of Claim 49. The PBX1 shown in FIG. 1 of Morinaga is substantively the same as a base point device of Claim 49, and a terminal 11 shown in FIG. 1 of Morinaga is substantively the same as a user's device, and a calling signal received by the gateway GW1 is substantively the same as a notice of Claim 49. The gateway GW1 that receives a calling signal (a notice) from the PBX1 (a base point device) originating from a terminal 11 (a user's device) can implicitly show that a terminal 11 (user's device) is successfully connected to PBX1 (the base point device), and as a result, Morinaga implicitly teaches ***receiving a notice that a user's device is connected to a base point device which is disposed between the user's device and a terminating device from the base point device***. As presented in the rejection of Claim 49, the '692 reference teaches an optical network, and French teaches VPN and the limitation ***transmitting an IP address and a VPNID allocated to the user's device to the base point device***.

The argument with respect to Claim 58 that ***the label switch routers, the packet switches, and the optical cross-connects of Miyabe are clearly different***

from user's device, and thus Miyabe does not notify information on wavelengths used by a user's device, and in addition, Miyabe neither discloses nor suggests the technical idea of notifying information indicating that multiplexed wavelengths are transmitted, is not persuasive. Miyabe teaches in column 12, lines 64-67, that the OXC5 is located at an exit point, and the OXC4 is located upstream, and OXC5 transits to OXC4 a wavelength notification message indicating a wavelength reserved for a route. Since a route implies communication of user devices, and a wavelength notification message indicates a wavelength for a route, a wavelength notification message of Miyabe implicitly teaches ***notify information on wavelengths used by a user's device***, and since Miyabe also teaches WDM, a Miyabe implicitly teaches ***technical idea of notifying information indicating that multiplexed wavelengths are transmitted***, and the combination of the '693 reference, Miyabe, and Oguchi teaches these limitations of Claim 58.

The argument with respect to Claim 60 that ***the super frame of Miller is a series of data frames which are sequentially transmitted in the time domain and therefore the super frame of Miller is not transmitted in parallel, and the flag of Miller is not "information that the serial signals are converted to the parallel signals" as recited in Claim 60, and that the Examiner fails to mention the claimed "information for the topology of the parallel signals"***, is not persuasive. As presented in the rejection of Claim 60, the combination of the '692 reference in view of Miyabe teaches serial signals that are converted to the parallel signals. Miller is applied to teach a notification that a signal is converted from one form to another form, and the

information included with the flag in column 11, lines 4-11 of Miller can be reasonably interpreted as ***information for the topology of the signals***.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA SMITH whose telephone number is 571-270-1826. The examiner can normally be reached on Monday-Friday, 10:30am-7pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag Shah can be reached on 571-272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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04-21-2010

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